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of the Coast Lines; the Laurentian Highlands; Glacial Action; the Appalachians; Rocky Mountain System; the Great Plains; Climate; Rainfall and Vegetation; Aboriginal People; and History. The plan followed in reference to the United States is characterized by the editor as novel, and 'perhaps the most instructive in the book.' Surely it is not too much to say that in the sixty-three pages devoted to the United States we have the best existing summary of the present geographical features of our Republic, causally considered. In the regional description of the United States the area is divided into physical provinces, and in each the effect of the physical features in shaping or determining the social and economic conditions in the present or past is well brought out, and so skillfully done that the political phase seems a necessary part of the physical phase, as is, perhaps, best shown in the section on New England.

The chapter is accompanied by an outline map of the United States, which is particularly graphic and usable. It will be noted from the map that the author's division of the United States into physical divisions differs very materially from the divisions previously published by our workers in geomorphology. The scheme here used is simple and accurate, and equally well suited to those who know the several regions personally, and to those who do not. This chapter should be read by all who desire a clear, interesting, and faithful account of the United States.

As a whole, the volume deserves a place among the necessary reference books, at ready call in all libraries, public and private. There are few inaccuracies and few typographical errors; the book being printed in a pleasing and attractive manner on paper that, though thin, is good, so that the volume is not unwieldy in spite of its length. This volume will, undoubtedly, be the standard one volume reference book for years to come, and the editor deserves great praise for his skill and care in carrying to successful completion a complicated and difficult enterprise.

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*A Manual of Psychology.* By G. F. STOUT, M.A., LL.D. London, University Correspondence College Press. 1899. Pp. 643.

The psychological world has been anticipating this book with lively interest since the appearance of the author's *Analytic Psychology* in 1896. In the preface to that work Dr. Stout writes as follows: "When I first planned the present work, it was my intention to follow the genetic order of treatment. But I found myself baffled in the attempt to do this without a preparatory analysis of the developed consciousness. \* \* \* I therefore found myself driven to pave the way for genetic treatment by a previous analytic investigation; and the result was the present work. It must, therefore, be regarded, even in respect to my own plan of procedure, as a fragment of a larger whole. \* \* \* I may say that my strongest psychological interest lies in certain genetic questions, and especially in those on which ethnographic evidence can be brought to bear." In judging the *Manual*, then, one must keep in mind its predecessor which is, in a certain sense, also its complement. It is, however, necessary to observe, at the same time, the distinct offices of the two works. The first is a general, systematic treatise; "its aim is to bring systematic order into the crowd of facts concerning our mental life revealed by analysis of ordinary experience:" the second is a text-book. Many divergences in the two which one is inclined, at first sight, to lay to a change in standpoint are undoubtedly to be ascribed rather to a difference in the manner of exposition.

There is no doubt that the wave of psychological enthusiasm which has been advancing so steadily for a quarter of a century is tending to eddy into a series of specific, but profound interests. The change is natural; it might have been read beforehand from the history of any one of the older disciplines. Systematic thinking reorganizes itself by concentrating at critical points, as really as does matter by the redistribution of its functions. Just now one of the currents of psychological thought is flooding towards the genetic center of activity. Is it not time, many psychologists are asking, to construct a paleontology of consciousness upon the basis of collected fragments? Can we

not read out of the successive strata of mind the distinctive features of an eopsychic, a mesopsychic, and a cenopsychic period? The best answer to these questions at present (and the best is poor) is given in the few comprehensive attempts really to write genetic psychology. I say 'few' because so much of the mass of what is called genetic work has been built upon a generous and sympathetic interest in brutes and infants instead of upon firm psychological principles, and has simply washed away.

These are some of the circumstances which make the present volume so sincerely welcome at the door of psychology. It comes from a pen which has already traced its way through the intricacies of the problems of the developed human consciousness under the lead of the whole English school of psychological thought.

What the author understands by the genetic method is clearly stated in the preface to the 'Analytic' volumes. Stout says: "What is called the genetic or synthetic method, instead of attempting merely to ascertain and define the processes of the developed consciousness as we now find them, proposes to itself the task of tracing the evolution of mind from its lowest to its highest planes." Let us see how the program has been carried out in the *Manual*.

The general arrangement of the book is very much like that of the *Analytic Psychology*. Each has a number of introductory sections on the scope and methods of psychology, followed by a 'general analysis,' and this, in turn, by a discussion of mental processes. But here the similarity ceases. The earlier work deals largely with matters of methodology and of psychological theory; filling out what Kant would call the architectonic of the science; while the *Manual* deals directly with its subject-matter. Since it is more concrete and less formal, the genetic volume approaches much nearer the actual mind of experience. After the ground has been cleared, three stages in the development of mind, the sensational, the perceptual, and the ideational, are treated in turn and furnish material for the main divisions of the work.

It is to be noticed at the outset that the mind with which the *Manual* deals is the knowing

and doing mind. "Psychology," we read, "is the science of the processes whereby an individual becomes aware of a world of objects and adjusts his actions accordingly." And again, "psychology finds a certain world of objects presented, let us say, to an educated Englishman of the 19th century, and it inquires how this world has come to be presented. \* \* \* The world of the young child, or the world of the Australian aborigine, are comparatively primitive formations; and the psychological problem is to discover how the transition has been made from these earlier stages to the later stages with which civilized adults are now familiar." The author, following Ward, makes the *presented object* the important datum for psychology: "except in the case of pure sensation," we read, "none of these processes (sensation, perception, attention, volition, etc.) can either exist or be conceived apart from a presented object." And, "the development of an individual mind is at the same time the development of the objective world as presented to that individual mind." That is, the problem of psychology as it appears to Stout is the *functioning* of mental processes: 'how does mind make its world?' rather than 'what processes at this or that level of development exist as processes in consciousness?' It is rather the efficiency of the machine than its construction that is investigated.

We may arrive at the same point from another direction. The author's 'ultimate modes of being conscious' are those which are marked out in the *Analytic Psychology*. They are the cognitive attitude, the feeling attitude, the conative attitude. These are all, notice, attitudes toward an object; they all depend upon the presentation of an object. Hence, the reference of consciousness beyond itself is kept constantly in the foreground.\* Modes of being conscious resolve themselves into 'modes of being conscious of an object.'

For the cognitive experience the author retains Ward's 'presentation' using it, however,

\* One exception is made: sensation is defined as conscious event (though it was said earlier that sensation could not be conceived apart from a presented object), but the author soon gets from this into cognition through the sensation reflex.

in a more limited sense (barring motor presentations). The feeling attitude implies that we are 'pleased or displeased, satisfied or dissatisfied with' an object. The term is broader than feeling-tone—which is a 'generic word for pleasure and pain'—since emotion involves unique and irreducible feeling attitudes. Finally, the peculiarity of the conative attitude is the "inherent tendency [in mental states] to pass beyond themselves and become something different. It is the teleological drift of consciousness; it has a positive phase, 'appetition' and a negative 'aversion.' Conation includes attention as a special case. "Attention is simply conation in so far as it finds satisfaction in the fuller presentation of its object, without actual change in the object." After discussing these ultimate modes, the 'primary laws of mental process' are given. These laws formulate the manner of going-along and going-together of processes. The chapter includes a group of apparently heterogeneous topics; relativity, conative unity and continuity, retentiveness, association, reproduction, acquirement of meaning, facilitation and arrest, habit and automatism, and physiological dispositions. The coherence of the chapter is in several places, doubtful. The most important point in the chapter, both from a genetic and an analytic point of view is, in the writer's opinion, the exposition of 'cumulative dispositions': the effect, that is, of an earlier upon a later consciousness without the re-statement of the earlier experience. It is the problem that Spencer grappled with, by no means successfully, in his general law of association, and one which very much needs working out in detail.

The general analysis closes with a clear, concise statement and criticism of 'faculties' and 'associationism.' The opening of Book II. brings the student to the real subject matter of the science. This Book, which covers about the same number of pages as the preliminary chapters, is occupied with sensation. Sensation is, for the author, a 'special form of consciousness' produced by some condition outside the nervous system, *i. e.*, a stimulus. On account of differences in intensity, steadiness, etc., the 'sensory elements' in images are not included in sensation. Sensations are dealt

with in psychology both as 'psychological states' and as 'vehicles of knowledge.'

It is to be noted that sensation is not always treated here as an abstraction; for it is maintained that 'mere sensation' exists concretely even in adult experience. This is an important point, because Stout's genetic scheme, as developed later, assumes that sensation is not necessarily something totally distinct from a cognized object or any bit of cognition, as experimental psychology insists, but a concrete kind of consciousness which forms the initial member in the genetic series.

The 'sensation reflex' (a self-contradictory term!) it is which emerges above the physiological reflex and becomes 'the most primitive form of mental life which is distinctly recognizable.' The physiological reflex passes into the sensation reflex (1) when a special emergency arises, as coughing, *e. g.*, and (2) when the mind is not too much pre-occupied by higher processes. A meagre enough *raison d'être* for consciousness? Apart from the difficulty of tacking consciousness on to a complete and efficient physiological mechanism, there is the question why a consciousness thus added should be the same in kind as an ultimate element of the developed consciousness, *i. e.*, sensation. Is it not more likely, as Ebbinghaus remarks (*Grundzüge der Psychologie*, Vol. I., p. 10) that the original consciousness was, like the derivative one, a complex, not a wholly simple one? Stout partly saves himself from confusing an analytic and a genetic simple by endowing the sensation reflex with both 'conative' and 'hedonic' attributes; it may include appetition or aversion, and pleasure or pain. But with these endowments does not the sensation reflex really become an *impulse*, and would not the type of consciousness be better described as impulsive than as 'purely sensational'? The author does, in fact, go so far as to call it incidentally a 'sensational impulse.' Surely, a better term, especially since he lays so much emphasis on the teleological aspect of consciousness.

With this chapter on the primitive consciousness is started the genetic plan. As experience develops raw sensation becomes less and less, meaning, significance becomes more and more;

the perceptual consciousness becomes relatively more prominent, while "sensation is more delicately differentiated, more definitely restricted, less intense, and less strongly toned in the way of pleasure or pain." At the same time—and this is very important for the author's functional standpoint—differentiation means a less immediate reaction and a more clever planning for remote ends. Beyond these general statements and a hint at the corresponding development of organs, the *Manual* is decidedly disappointing in its treatment of differentiation; a concept which Spencer handled so boldly, when there was a paucity of knowledge on the subject, and which James and Ward have since made promising, but have not worked out.

We pass rather suddenly from these general synthetic questions to a detailed study of the various senses. A chapter is given to vision, one to audition, one to 'Other Sensations,' one to the 'Weber-Fechner Law'—a summary of Meinong—and a final one to the 'Feeling-tone of Sensation.' We cannot stop to point out many things that are admirable both in selection and in arrangement, or to indicate possible lines of criticism. There is, on the whole, a general suggestion of perfunctoriness in this part of the work. The material used shows the traces of second handling; it is, however, for the most part from reliable sources (chiefly Ebbinghaus and Foster), and is brought down to date. We find occasional lapses in the strict use of sensation; for example, we read of the 'sensation of softness and smoothness,' 'position-sensations and movement-sensations' and, finally, sharpness and bluntness, hardness and softness, wetness and dryness are spoken of as 'peculiar qualities of sensation.' Surely a gross confusion of sensation and perception, which is defined as 'the cognitive function of sensation.' Another difficulty arises in connection with the feeling-tone of sensation. It was remarked earlier that feeling-tone, including pleasure and pain, is one of the feeling attitudes; but here we find a whole chapter under sensation devoted to feeling-tone. Now, if feeling-tone is an ultimate mode of being conscious, how can it be a feeling-tone of sensation, *i. e.*, a variable dependent upon sensation which

is not an ultimate mode of consciousness? \* If, in other words, feeling-tone is a feeling-attitude and demands relation to an object, how can it be the feeling-tone of sensation which abstracts from the object? Still, we are told that feeling-tone does exist on the level of 'mere sensation.' The confusion, in both cases, evidently arises from the failure to keep distinct the architecture of mind and the offices it fulfils as interagent between the organism and the objects which it knows. It is to be remarked that, in the sensation chapters, the genetic standpoint is almost entirely forsaken. This is somewhat surprising, since sensation was the datum from which the phylogeny of mind was started. It is, again, the sensation abstracted from the introspected consciousness at odds with its *alter ego*, the sensation of genesis. In view, then, of the confusion which necessarily pervades this section and of the obvious shift of standpoint, one is tempted to remark that the work would have gained rather than lost by the omission of most of the chapters on Sensation.

The third and fourth books, on Perception and Ideation, respectively, are much more satisfactory than the Sensation chapters. An admirable introductory chapter to the third book gives the characteristics of the perceptual consciousness. Perception is the cognitive function of sensation, but it has also a conative aspect and a feeling-tone; it is not only reference to an object, but it is an active striving toward, and striving implies feeling. The Perception chapters breathe the spirit of that wholesome conservatism which has recently been infused into genetic psychology. It is clear that the author has a program worked out, and worked out on the basis of facts rather than from logical formulæ. Two things are insisted upon: first, the categories of the developed consciousness must not be thrust upon the "primitive mind, and, secondly, the activity of the organism must be reckoned with in mental development; the individual is not to be regarded as an inert mass that draws in the world by a kind of mental attraction: he learns by doing

\* We may even go deeper than this and ask how the genetic series can be started, at all, with something which is not an ultimate mode.

—whatever 'doing' may mean in psychological terms.

Imitation receives scanty notice. Emotion is more adequately treated; still, one is surprised to find the genesis of emotive states so little dwelt upon. The opportunity for giving a valuable account of the history of emotion has not been seized. The last part of Book III. is devoted to special percepts and includes Perception of External Reality, of Space, and of Time.

The ordinary distinction is observed between perception and idea; perception is based on sensation, as we have seen; it is the meaning which sensation acquires, while idea is similarly related to image. "The image is no more identical with the idea than sensation is identical with perception. The image is only one constituent of the idea; the other and more important constituent is the meaning which the image conveys." Our old difficulty arises here. Image is surely itself a 'meaning term.' Even as Stout has defined it, it differs from perception in lacking the external stimulus; it does not depart from perception in wanting meaning, but, as he puts it, in being worked out 'in the head.' It is, then, a representation, a 'mental picture.' As he himself illustrates it: "If I think about the Duke of Wellington, the image present to my consciousness may be only the shadowy outline of an aquiline nose." Think of the outline of an aquiline nose being conscious 'stuff,' devoid of meaning! It is two degrees removed; it is not only not a bit of consciousness, it is not an image; although one may have an image of it. The same confusion appears when the author turns to examine the characteristics of the 'mental image,' and asks: "In what respect does an object as merely imaged differ from the same object as actually perceived?" Not a psychological question at all, as it is put. To make the matter quite explicit we read a little farther on: "In what follows the object as perceived is simply called the 'percept' and the object as imaged, the 'image.'"

Having gone so far, we are not surprised to come upon a serious discussion of Hume's 'force and liveliness' as 'distinctive of sensations.' Now it is one thing to compare sensations, peripherally and centrally aroused, with

each other, and quite another to compare the 'percept' with the 'image.' Clearly, Hume's task was the latter. It must be said that the author enters into a more serious and painstaking investigation of idea and image than is commonly to be found in general treatises. His introspection is full and fresh, but not always free from ambiguity. In the following instances he does not seem to be quite sure-footed: "What the stimulus does for us in perception, we have to do for ourselves in ideation." "Images are maintained before consciousness purely by an effort of attention." "Ideas follow each other in accordance with purely psychological conditions." "In merely imaging 'the attention feels as if drawn backward towards the brain.'"

Under the heading 'Trains of Ideas' comes the discussion of Association and of Ideal Construction. The substance of the chapter is that associations are due to 'continuity of interest,' and the associated material is modified to suit the associating consciousness. There is little to note in the memory chapter. Memory is reproduction; some suggestions are offered towards raising its efficiency. In the treatment of comparison, conception and language we get back to the genetic problem, and, at the same time, come upon a delightfully clear and carefully thought out exposition of one of the cruxes of psychology: the passage from the idea to the cognitive processes which stand upon the next higher level. After the stage of conceptual thinking is reached by the aid of language, whose function it is to break up the concrete items of sense perception and re-combine them into new wholes, the author proceeds to elaborate the process by which the external world and the self are produced as ideal constructions. The first motives to such construction are found to be practical: the bringing coherence and order into experience and the adjustment of the individual to his fellows in the community.

With Royce and Baldwin, Dr. Stout gives the social factor peculiar importance in this process. Involved with these constructions is the matter of belief and the distinction between belief and imagination. With Bain, the author finds the key to belief to lie in its relation to

activity. Here again the influence of society is emphasized.

The feeling attitude is considered not only on the levels of sensation and of perception, but also now in connection with ideas. Ideational activity itself is said to possess feeling-tone; this is connected with the furtherance and obstruction of conation; furtherance, the working out of the activity, giving pleasure and its opposite, pain. It is to be noted that the three references to feeling, upon the three developmental planes, involve some ambiguity in the use of terms. Pleasure and pain, and pleasantness and unpleasantness are often confused. It would have aided the student if different terms had been used to denote simple affection, the feelings of the perceptual stage, and the more involved hedonic aspects of discursive thinking. As an example, pain is often used where simple unpleasantness is evidently meant; as in the checking of a 'conative activity.' The distinction between pain and 'pain-sensation' is also confusing.

Finally, in the last chapter, the reader comes within sight of what he has been looking for all the way through; some systematic explanation of conation and of conative development. The reviewer is inclined to think that, without a previous analysis of conation, and also of impulse and of attention, many steps in the author's argument would be incomplete. Perhaps the full treatment in the *Analytic Psychology* is sufficient. Still, considering the difference in the two audiences which the author reaches, it is, perhaps not demanding too much to ask for a more complete analysis of these terms which are used constantly throughout the book.

The author acknowledges a very great debt to Dr. Ward, and the influence of the master is prominent all through the work. Naturally, Professor James' general point of view is also approached; although in matters of special interpretation Stout dissents from his opinion more often than he accepts it. While the book is predominantly British in its mode of treatment, it comes nearer a compromise between English and German psychologies than does any book which we have yet had from a writer of the English school, excepting, perhaps, Pro-

fessor Sully's psychology. When one considers the product in connection with the soil to which it is indigenous, one can but note the marked effects of fertilization from imported systems. Although the *Manual* will scarcely fulfil at present a textual function in the class-rooms of our colleges and universities, American psychologists will know it and will find it stimulating and helpful.

Finally, to revert to the query with which we set out, we shall have to say that the genetic standpoint is not maintained with the rigor which we were led to expect from the author's preliminary definition of it; but that where it has been adhered to, it is used with profound psychological wisdom and a keen insight into the dark vistas of mental development.

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*Matières odorantes artificielles.* GEORGES-F. JAUBERT. Docteur ès Sciences, ancien Préparateur de Chimie à l'École Polytechnique. Petit in-8. Pages 190. (Encyclopédie scientifique des Aide-Mémoire.)

The title of this book is both misleading and vague. It is misleading because it does not cover the indicated field, but only discusses three classes of odorous substances, the remaining classes being reserved for the author's forthcoming volumes on 'Les Produits Aromatiques' and 'Les Parfums Comestibles,' the subject thus being distributed through the three volumes. Further, it is vague, in that it is not, as might be expected, a bird's-eye view of synthetic perfumes, for at least one-third of its space is taken up with compounds which have no interest whatever as perfumes, and which apparently are inserted, either from their chemical relationship to other substances in the tables, or because, although possessed of no valuable odor themselves, they happen to occur associated with some natural perfumes in certain essential oils. The reviewer is of the opinion that the author might better have confined himself to a tabulation of those synthetic organic compounds whose odor renders them of commercial value, or which are of scientific interest from their being identical with certain natural aromas.